

### **Claims**

1. Construction with walls, ceilings and/or floors as parts of a building, especially for buildings protected against radiation in which the building parts  
5 are made of reinforced concrete, characterized in that the building part is manufactured in a sandwich design, and one layer of the building part is made of antiradiation material and at least two other layers are made of concrete, and at least one antiradiation material is gypsum that is between the two layers of concrete.  
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2. Construction according to the prior claim, characterized in that the antiradiation material contains water, especially bound water.
3. Construction according to one of the prior claims, characterized in that the  
15 antiradiation material is natural, unfired calcium sulfate dihydrate.
4. Construction according to one of the prior claims, characterized in that the antiradiation material consists of gypsum panels that are slid into a cavity and stand free or are mortared in.  
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5. Construction according to one of the prior claims, characterized in that the antiradiation material consists of poured, hardened granulated gypsum.
6. Construction according to claim 5, characterized in that the gypsum granules  
25 are 40 mm and less.

7. Construction according to one of the prior claims, characterized in that the antiradiation material is compressed.
8. Construction according to one of the prior claims, characterized in that the  
5 thickness of the layer of antiradiation material depends on the intensity of the radiation to be screened.
9. Construction according to one of the prior claims, characterized in that  
10 additives consisting of gibbsite, hydralite, aluminum hydrate or magnesium sulfate are added to the antiradiation material.
10. Construction according to one of the prior claims, characterized in that the  
15 antiradiation material is poured between a construction pit structure, especially a sheet wall, and the concrete layer; and the material is compressed if necessary.
11. Construction according to one of the prior claims, characterized in that the concrete layer is made of a two-shell double wall.
- 20 12. Construction according to claim 11, characterized in that the double wall is filled with site-mixed concrete.
13. Construction according to one of the prior claims, characterized in that the  
25 concrete layer and/or the site-mixed concrete to fill the double wall consists of heavy concrete with heavy additives such as hematite, lead, steel or iron materials.
14. Construction according to one of the prior claims, characterized in that the part of the building is made of two double walls at a distance from each other,

and the area between the two double walls is filled with antiradiation material.

5 15. Construction according to claim 14, characterized in that the double walls are connected with tie rods perpendicular to their lengthwise extension.

10 16. Construction according to claim 11 or 14, characterized in that the double wall consists of prefabricated concrete panels with essentially parallel, spaced walls, where the individual walls are especially connected with wall lattice girders.

15 17. Construction according to claim 11 or 14, characterized in that the connecting elements for two double wall elements and/or a double wall element and a ceiling element are welded or screwed together.

18. Construction according to claim 16, characterized in that the wall lattice girders between the wall elements are corrosion-resistant or consist of high-grade steel.

20 19. Construction according to one of the prior claims, characterized in that the construction is built on the antiradiation material.